

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application

Listing of claims:

1. (Currently Amended) A mass spectrometer, comprising:
  - (a) an ion source for generating and accelerating ions along a flight path;
  - (b) a flight tube downstream from said ion source for shielding said ions said flight tube having an electrically insulating inner surface;
  - (c) an ion mirror abutting said inner surface and integral to said flight tube, comprising:

a front electrode, middle electrode and a rear electrode, each of said electrodes designed for receiving ions and creating an electric field which retards and reflects said ions; and
  - (d) an ion detector for receiving ions reflected from said ion mirror.
2. (Currently Amended) A mass spectrometer as recited in claim 1, wherein at least one of said electrodes comprises an electrically [[a]] conductive material.
3. (Currently Amended) A mass spectrometer as recited in claim 1, wherein said electrically conductive material is a metal.

4. (Original) A mass spectrometer as recited in claim 3, wherein said metal is selected from the group consisting of gold, aluminum, nickel, chromium and titanium.

5. (Original) A mass spectrometer as recited in claim 3, wherein said metal is selected from the group consisting of quartz, glass, fused silica and ceramic.

6. (Original) A mass spectrometer as recited in claim 1, wherein the electric field produced by said ion mirror deviates only slightly from a linear mirror with constant field strength.

Claim 7-11 (Cancelled)

14. (Currently Amended) A mass spectrometer comprising:
- (a) an ion source for generating and accelerating ions along a flight path;
  - (b) a flight tube downstream from said ion source for shielding said ions, said flight tube having an insulating inner surface;
  - (c) an ion mirror abutting and fixed to said inner surface and comprising: a front electrode, a middle electrode and a rear electrode, each of said electrodes being designed for receiving said ions and for creating an electric field that retards and reflects said ions; and
  - (d) an ion detector for receiving ions reflected from said ion mirror.

15. (Previously Presented) The mass spectrometer as recited in claim 14, wherein said inner surface comprises a portion between said ion source and said ion mirror.

16. (Previously Presented) The mass spectrometer as recited in claim 15, wherein said front electrode faces said ion source and said ion detector faces said front electrode.